

Components of UAM transportation cost

Claude LE TALLEC

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Short bio

A graduate of “Ecole Nationale Supérieure d’Arts et Métiers” (ENSAM 1978) and “Ecole Supérieure des techniques Aérospatiales” (ESTA 1979), Claude Le Tallec is a former Auditeur du Centre des Hautes Etudes de l’Armement (CHEAr 2003).

He worked with ONERA from 1980 to 2020, dealing with defense topics (surface to air defense systems and unmanned aircraft systems) and civils ones (highly automated air transport systems). From 2004 to 2009, he was the coordinator of the 6th Framework Program Project IFATS (Innovative Future Air Transport System) and from 2009 to 2012 the coordinator of the Personal Plane project of the 7th European Framework Program. He has been a member of the EUROCAE Working Group 73 in charge of creating standards for Unmanned Aircraft systems and has led a study for the European Defence Agency about the integration of UAS in the airspace. He provided the French Procurement Agency and other state entities with expertise for the use of UAS for

various military and civil applications from 2005 to 2019.

Moreover, he has been in charge of various studies in the General Aviation domain.

He is a general aviation pilot, he has logged more than 6000 flight hours and is a Certificated Flight Instructor for powered plane (F-FIA), Ultralight and gliders (F-FIS).

Abstract

The goal currently assigned to UAM transportation system providers is to offer end-to-end service, from the origin of a trip to a final destination, at the price of a taxi or Uber. An analysis of the cost components of such a service is made, it includes the cost of the different segments of the journey, one of them being an eVTOL flight between two vertiports. The assessment of the cost of this segment of the trip is made taking into account the ground infrastructure necessary to support the eVTOL operations (vertiports accommodating passenger services, charging and cooling systems for high-energy batteries), the manpower required to manage eVTOL flights both at the vehicle level (pilot and ground personnel) and at the air traffic control level. The first and last segments of the trip are also considered when the origin and the destination of the trip are not collocated with a vertiport.